The Future of Quality Measurement for Improvement and Accountability

Patrick H. Conway, MD, MSc
Farzad Mostashari, MD, MPH
Carolyn Clancy, MD

THE AFFORDABLE CARE ACT EXPANDS ACCESS TO HEALTH insurance and includes numerous provisions focused on delivering care that is high quality, safe, and affordable. Reliable and meaningful quality measurement that focuses on important outcomes, including patient experience throughout the health care system, is an essential prerequisite for achieving this goal. In this Viewpoint, we describe the characteristics of the quality measurement enterprise of the future, outline a potential roadmap for the transition, and identify a set of opportunities for public- and private-sector collaboration.

Future of Quality Measurement Enterprise

Meaningful quality measures increasingly need to transition from setting-specific, narrow snapshots, such as use of angiotensin-converting enzyme inhibitors or angiotensin receptor blockers for patients with congestive heart failure, to assessments that are broad based, meaningful, and patient centered in the continuum of time in which care is delivered (TABLE). As outlined in the National Quality Strategy, required by the Affordable Care Act, performance in all 6 priority domains must be addressed, monitored, and improved: clinical care, patient experience and engagement, population and community health, safety, care coordination, and cost and efficiency.[1]

Furthermore, measure concepts must be prioritized based on the potential population-wide effect of achievable improvements in that measure. Although there are many endorsed quality measures, limited measures exist in some domains (eg, care coordination, patient engagement) and more system-based outcome measures with high public health importance are needed as opposed to process measures prone to "teaching to the test." The goal is to identify important measures, discontinue using those of little value (eg, Centers for Medicare & Medicaid Services [CMS] retired multiple measures in hospital programs in which performance was excellent, such as β-blockers on arrival for myocardial infarction), and construct measures into a portfolio that meets the needs of payers, policy makers, and the public. As this parsimonious set of core measures is developed (Table), ideally they must be adopted across public and private recognition and payment programs to increase the "signal," obtain synergy between different parts of the health care system, and reduce burden.

Potential Roadmap for the Transition

The unique mix of financing and largely private-sector care delivery in the United States implies that a more effective measurement system requires ongoing collaboration between the public and private sectors. Federal programs have typically been established by statute and started one-by-one, therefore measurement is often setting-specific; private sector–led initiatives often share these characteristics. To achieve the potential improvements required, the US Department of Health and Human Services (DHHS) and CMS are now reorienting and aligning measures around patient-centered outcomes that span across settings. The National Quality Forum is a consensus-based entity that includes both public- and private-sector stakeholders that endorses and recommends measures for use in reporting, improvement, and payment programs. The National Quality Forum recently launched a measures application partnership, which plays a major role in the selection of measures, identifying the next generation of measures, and aligning measurement across the public and private sectors.

A newly aligned and prioritized measurement system will also need to align vertically and capture measures at each level of the system. It must capture measurement at 3 main levels (ie, individual clinician, group/facility, population/community) and facilitate "roll-up" of measures so performance results can be calculated and information fed back at each level. There must be a common measurement platform that serves the needs of policy makers, payers, purchasers, consumers, and frontline clinicians. The next generation of electronic health records (EHRs) and interoperable health information technology systems can be a key foundational building block.[2]

Feasible Quality Measurement Implementation That Minimizes Burden. Quality measurement implementation needs to be easy in routine practice for clinicians with measures captured as part of the clinical workflow. Measurement must be applicable to practices of all sizes and should minimize the burden of data collection. Clinicians and hospitals must submit clinical quality measures under DHHS programs to obtain payment incentives, fulfill public reporting requirements, or avoid payment penalties. For example, physicians and other clinicians have 3 mandatory CMS quality programs: the physician quality reporting system, the physician value-based modifier for Medicare, and the EHR incentive program for Medicare and Medicaid. CMS is aligning the reporting requirements for these 3 programs so the individual clinician or clinician group will be

Author Affiliations: Department of Health and Human Services, Washington, DC (Drs Conway, Mostashari, and Clancy); Centers for Medicare & Medicaid Services, Baltimore, Maryland (Dr Conway); Office of the National Coordinator for Health Information Technology, Washington, DC (Dr Mostashari); and Agency for Healthcare Research and Quality, Rockville, Maryland (Dr Clancy).
Corresponding Author: Patrick H. Conway, MD, MSc, Centers for Medicare & Medicaid Services, 7500 Security Blvd, Mailstop S3-02-01, Baltimore, MD 21244 (patrick.conway@cms.hhs.gov).

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Table. National Quality Strategy Domains: Current and Future Measure Examples

Quality Dimension[a]	Examples	
	Current Measures	Future Measures
Safety	Central-line infections; claims-based health care–acquired conditions	All-cause patient harm including clinical data
Care coordination	Care transitions measure (3-item patient report); hospital readmissions	Readmissions across settings; care transition composite; patient-reported care coordination across settings
Clinical care	Seting-specific clinical process of care measures by condition	Patient-centered and patient-reported outcome measures; outcome measures for patients with multiple chronic conditions
Population and community health	Smoking; immunizations	Determinants of health; reduction in disparities
Patient experience and engagement	Consumer Assessment of Healthcare Providers and Systems (CAHPS) surveys	Multimodal collection of patient experience; shared decision making and engagement
Cost and efficiency	Cost for individual episodes around hospitalization	Costs across episodes with shared accountability; total cost of care for populations

[a] Adapted from the US Dept of Health and Human Services.[1]

able to report once on a single set of measures and receive credit for all 3 programs in 2014.

Health information technology potentially can enable easier collection and reporting of quality measures. For example, EHRs can collect standardized electronic data as a by-product of the routine delivery of care on a census of all patients and provide timely feedback to clinicians. This promise is far from being realized currently, with many remaining challenges.[3] However, there are some initial positive results. For example, one group of researchers recently identified 18 quality measures of chronic disease management and preventive services that could be implemented by primary care practices using an interoperable EHR.[4]

Realizing the full potential of quality measurement to improve care quality and health outcomes will require several strategic shifts. First, the complexity of clinical data requirements may need to be reduced or at a minimum—planning for how data elements for a given measure will be captured as part of routine clinical workflow considered early in the measure development cycle. Second, automated systems need to be established for collection of patient-reported outcomes and experiences of care that reach patients where they are (eg, mobile, text). Third, increased interoperability and data liquidity (eg, structured laboratory data) need to be increased. Fourth, increased reliability of quality measure calculation is needed across health information technology systems. Quality measures need consistent definitions of clinical concepts and to be based on defined electronic data elements. Standards are needed for unambiguous representation of quality measures and also for increased rigor of testing and certification of EHRs and intermediaries.

Goal of Measurement Is Improvement. The primary purpose of quality measurement is quality improvement. Therefore, a measurement system that supports improvement is necessary. Quality measurement systems should include mechanisms to provide feedback through data visualization tools and clinical decision support to front-line clinical staff in as close to real time as possible and at the point of care whenever possible. For example, in some leading health systems, clinicians have an EHR linked to a registry and this system is used for benchmarking with peers via electronic dashboards, timely feedback of individual and group performance, and decision support to drive improvement.

An Agile Learning Measurement Enterprise Based on Collaboration

The current cycle time from development to implementation for most federal programs is typically at least 3 years and for some programs, longer based on statutory requirements. The US health system must reduce the cycle time for measure development, endorsement, and implementation. Three additional changes are needed: (1) the measurement enterprise must move beyond identification of gaps to a collaborative model of planning and executing measure development, including within the public and private sectors; (2) electronic value sets must be separated from measure definitions that permit electronic measures to be updated within shorter subregulatory timeframes; and (3) measure "test beds" should create and foster new patient-centered, high-impact e-measures to improve efficiency of development process and readiness for implementation. As measures are increasingly implemented in payment programs based on value, the public and private sectors must collectively work to ensure the implementation of patient-centered measures that matter, minimize clinician burden, focus on improvement, and develop an agile learning measurement enterprise. The measurement enterprise is critical for successful transformation of the health system to achieve better health outcomes as efficiently as possible.[5]

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REFERENCES

1. US Dept of Health and Human Services. Annual Progress Report to Congress: National Strategy for Quality Improvement in Health Care, 2012. http://www.ahrq.gov/workingforquality/nqs/nqs2012annlrpt.pdf. Accessed March 13, 2013.
2. Cimino JJ. Improving the electronic health record. *JAMA*. 2013;309(10):991-992.
3. Fleurant M, Kell R, Jenter C, et al. Factors associated with difficult electronic health record implementation in office practice. *J Am Med Inform Assoc*. 2012;19(4):541-544.
4. Kern LM, Malhotra S, Barrón Y, et al. Accuracy of electronically reported "meaningful use" clinical quality measures. *Ann Intern Med*. 2013;158(2):77-83.
5. Conway PH, Clancy C. Transformation of health care at the front line. *JAMA*. 2009;301(7):763-765.

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